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10CS/IS761

Seventh Semester B.E. Degree Examination, Dec.2014/Jan.2015

C# Programming and .NET

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Explain the role of common intermediate language with an example and write the benefits. (07 Marks)
b. Explain the role and responsibilities of common language runtime, with a diagram describing the modules of common language runtime. (08 Marks)
c. Differentiate between single-file and multi-file assembly. (05 Marks)
- 2 a. Explain the C# preprocessor directives with examples. (09 Marks)
b. Write a C# program to display the following information using system. Environment class:
i) Fully qualified path to the system special folder.
ii) Names of the logical drives.
iii) Amount of physical memory used by the process.
iv) Operating system version.
v) Fully qualified path where operating system is installed.
vi) NETBIOS name of the computer. (06 Marks)
c. Write a C# program to accept an integer as a command-line parameter from the user and check whether it is prime or not. (05 Marks)
- 3 a. List the functions associated with system. Object class and override any 2 methods. (10 Marks)
b. Write a C# program in which a method accepts two arguments as parameters from the user and returns four output values as add, sub, mul and division operations on arguments. (10 Marks)
- 4 a. Write a short note on enumeration and explain their usage with example. (06 Marks)
b. How would you enforce encapsulation using traditional accessor and mutator methods? Explain class properties with examples. (10 Marks)
c. What is boxing and unboxing? Explain with examples. (04 Marks)

PART – B

- 5 a. Explain in detail the finalization process. (04 Marks)
b. Explain how to build finalizable and disposable objects with examples. (05 Marks)
c. What is Structured Exception Handling (SEH)? List advantages of SEH, atoms in SHE. Differentiate between application exception and system exception. Create a user-defined exception to handle division by zero exception. (11 Marks)
- 6 a. List the class types of system.collection name space and list the associated built-in functions for 2 class types of system.collection. (08 Marks)
b. How to build clonable, comparable objects. Explain with examples. (12 Marks)

- 7 a. With an example, discuss keywords of C#:
- i) Checked
 - ii) Unchecked
 - iii) Sealed
 - iv) Stackalloc
 - v) abstract
 - vi) volatile
- (12 Marks)
- b. Explain overloading operators in C# with an example to overload a binary operator '+' to add two instance variables of a class.
- (08 Marks)
- 8 a. Write the steps involved in building multifile assembly. (05 Marks)
- b. Write the structure of .NET assembly. (04 Marks)
- c. Explain the two views of an assembly. (04 Marks)
- d. List the key elements and core CIL tokens of the assembly manifest. (07 Marks)

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